



SASOL SOUTH AFRICA LIMITED

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# ENVIRONMENTAL EXEMPTION COMPLIANCE AUDIT REPORT

14.25 (EV).6(W) - CONSTRUCTION AND  
OPERATION OF A LIQUID FLARING SYSTEM





**SASOL SOUTH AFRICA LIMITED**

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# **ENVIRONMENTAL EXEMPTION COMPLIANCE AUDIT REPORT**

**14.25 (EV).6(W) - CONSTRUCTION AND OPERATION OF  
A LIQUID FLARING SYSTEM**

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SASOL SOUTH AFRICA LIMITED

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# ENVIRONMENTAL EXEMPTION COMPLIANCE AUDIT REPORT

## 14.25 (EV).6(W) - CONSTRUCTION AND OPERATION OF A LIQUID FLARING SYSTEM

WSP

Building 1, Maxwell Office Park  
Magwa Crescent West, Waterfall City  
Midrand, 1685  
South Africa

Phone: +27 11 254 4800

[WSP.com](http://WSP.com)



# QUALITY CONTROL

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Signature	-			
Checked by	Marie Schlechter	Marie Schlecter		
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Authorised by	Ashlea Strong	Ashlea Strong		
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# PRODUCTION TEAM

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## CLIENT

SHE Specialist Environment	Broni van der Meer
Sasol Senior Manager Production	Olivia Cele

## WSP

Principal Associate	Marié Schlechter
Principal Associate	Ashlea Strong
Assistant Consultant	Milisa Rala



# CONTENTS

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	<b>PRODUCTION TEAM</b>	<b>5</b>
	CLIENT	5
	WSP	5
<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
1.1	TERMS OF REFERENCE	1
1.2	CONSTRUCTION AND OPERATION OF A LIQUID FLARING SYSTEM FOR ALCOHOLS (EXEMPTION NUMBER: 14.25(EV).6(W))	1
<b>2</b>	<b>AUDIT SCOPE</b>	<b>3</b>
<b>3</b>	<b>AUDIT METHODOLOGY</b>	<b>4</b>
3.1	AUDIT CHECKLIST	4
3.2	SITE INSPECTION	4
3.3	DOCUMENTATION CONSIDERED	4
3.4	AUDIT COMPLIANCE ASSESSMENT	5
3.5	AUDIT TEAM	6
3.6	ASSUMPTIONS AND LIMITATIONS	7
<b>4</b>	<b>AUDIT FINDINGS</b>	<b>8</b>
<b>5</b>	<b>SUMMARY OF THE AUDIT FINDINGS</b>	<b>24</b>
5.1	ENVIRONMENTAL EXEMPTION AUDIT FINDINGS	24
5.2	CLOSE OUT OF PREVIOUS AUDIT FINDINGS	27

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## ***TABLES***

Table 3-1 - Compliance Level Definition and Target Completion Dates	5
Table 4-1 - Audit Findings - Exemption	8
Table 5-1 - Summary of Environmental Exemption Compliance Audit Findings	24
Table 5-2 – 2019/2024 Audit findings comparisons	28

---

## ***FIGURES***

Figure 1-1 - SEST - Liquid Flare	2
Figure 4-1 - Earth berm between the fare and the eastern road	14
Figure 4-2 - Cast concrete walls	15
Figure 5-1 - Number/Count contribution of findings made to the Environmental Exemption conditions per Section	25
Figure 5-2 - Overall count findings on compliance to the Environmental Exemption conditions	25
Figure 5-3 - Overall percentage findings on compliance to the Environmental Exemption conditions	26
Figure 5-4 - Percentage contribution of findings made to the Environmental Exemption conditions per Section	26
Figure 5-5 - Audit findings total count from the 2019 and 2024 audits	27

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## ***APPENDICES***

### APPENDIX A

#### ENVIRONMENTAL EXEMPTION (14.25(EV).6(W))

# 1 INTRODUCTION

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## 1.1 TERMS OF REFERENCE

Sasol South Africa Limited, operating through its Secunda Tankfarm Operations (Sasol), appointed WSP Group Africa (Pty) Ltd (WSP) as an independent environmental consultant, to undertake a compliance audit and compile an audit report according to the requirements of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA).

This report presents the findings of the compliance audit completed for the Exemption (Reference number: 14.25(EV).6(W) issued on 09 February 1999) for the period February 2019 to February 2024.

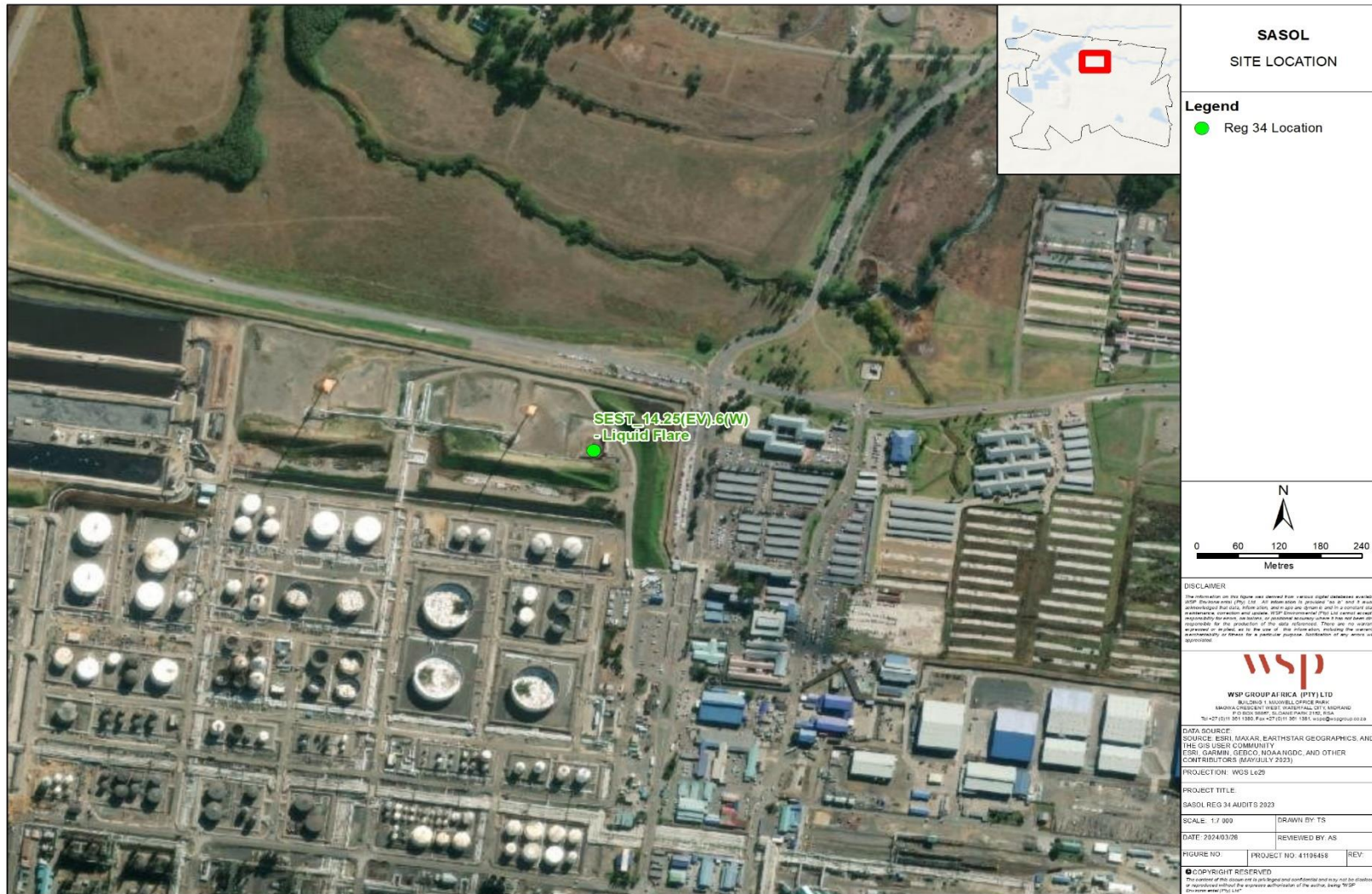
## 1.2 CONSTRUCTION AND OPERATION OF A LIQUID FLARING SYSTEM FOR ALCOHOLS (EXEMPTION NUMBER: 14.25(EV).6(W))

An environmental exemption was granted by the Mpumalanga Department of Environmental Affairs and Tourism (now Mpumalanga Department of Agriculture, Rural Development, land and Environmental Affairs (MDARDLEA)), for the construction and operation of a liquid flaring system for alcohols. The system was to be located in parallel to an existing pit flare.

**Figure 1-1** provides the location of the flare within Sasol Secunda Primary area.

The flaring technology utilised was upgraded to a newer technology, referred to as “Non-Acid Chemical (NAC) Burner”. This upgrade was communicated to the Department by means of an amendment process on 18 July 2022.





### Figure 1-1 - SEST - Liquid Flare

## 2 AUDIT SCOPE

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The 7 April 2017 amendment to the Environmental Impact Assessment (EIA) regulations introduced the requirement for the auditing of all EAs and EMPs in effect on 8 December 2014 and submission of the audit reports to the Department of Forestry, Fisheries and the Environment (DFFE) every five years. This audit is designed to meet the requirements of Regulation 34 of the EIA Regulations, 2014, as amended.

The audit period runs from February 2019 to February 2024, therefore any construction related conditions are considered outside the current audit period and therefore not applicable.

The objective of the audit was to:

- Assess the level of compliance with the conditions of the Exemption;
- Identify and assess any new impacts and risks that result from undertaking the activity;
- Make recommendations in order to achieve compliance in terms of the Exemption; and,
- Ensure the commitments contained in Condition 8.02 of the Exemption are completed, more specifically:

*“Records relating to the compliance/non-compliance with the conditions of the Exemption must be kept in good order. Such records must be made available to this Department within seven (7) workdays of the date on a written request by the Department for such records.”*

## 3 AUDIT METHODOLOGY

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The compliance audit was conducted in a systematic and independent manner that was documented and objectively evaluated to determine compliance to the Environmental Exemption conditions.

The audit process comprised the following:

- Confirmation of the audit checklist;
- Site inspection (04 March 2024);
- Review of documentation relevant to the conditions of the Environmental Exemption (e.g. records, permits/certificates/maintenance logs/monitoring results/previous reports etc.); and
- Compilation of an audit report.

### 3.1 AUDIT CHECKLIST

WSP compiled an audit checklist to assist with the Environmental Exemption compliance audit (**Section 4**).

### 3.2 SITE INSPECTION

WSP auditor, Milisa Rala, conducted the site inspection on 04 March 2024. The findings and observations of the site visit are recorded and summarised in **Section 4** with evidence included in **Table 4-1**. Key personnel interviewed included:

- Sasol Area Manager Production - Nomzamo Moyo; and
- Sasol SO SHE Specialist: Environment - Broni van der Meer.

### 3.3 DOCUMENTATION CONSIDERED

The following documentation was provided and considered:

- 3.02 SEST 14.25(EV).6(W)\_1999-02-09 EA;
- AEL 0019-2020-F03 Sasol Oil\_Redacted;
- Primary Area Monitoring\_May 2023;
- Sasol South Africa (Pty) Ltd Secunda Renewal WUL\_14 Nov 2023;
- Environmental Complaints Register\_reA\_master2 (February 2024);
- ERA\_STO Production\_BvdM 20210609;
- 0\_Manual – Operation of the NAC Burners final;
- 0\_SOP\_TW PC 005 Operation of the NAC Burners (30 November 2014);
- 0\_STO\_Plant specific induction\_TankFarmWest;
- 14.25(EV).6(W)\_1998-12-15 – Letter;
- NAC Burner Manual\_20109-OMM-0001\_2014-06-01 (20140601);
- 3.02 SDF-051-000001-002.DGN REV 02C;
- 3.02 SDF-051-000001-003.DGN REV 02D;
- 3.02 SDF-051-000001-004.DGN REV 02E;
- 3.02 SEST\_14.25(EV).6(W)\_1999-02-09 Eal
- 3.06 Photo berm\_2016-09-13;
- 3.07 Photo berm\_2016-09-13;
- 3.08 BEP RELEASE FOR DETAIL DESIGN;



- 4.01 NAC\_Permit Amend\_10-11-26;
- NAC Burner Manual\_20109-OMM-0001\_2014-06-01;
- Plot Plan;
- SEST\_14.25(EV).6(W)\_1999-02-09;
- WSP Audit\_Sasol\_SEST\_EX\_14.25(EV).6(W)\_FINAL\_045\_41101534\_2019-06-03;
- Emergency preparedness\_CGR-SHE-000002\_Exp20261101
- Induction\_Mod4\_ProcessSafetyMangement;
- Induction\_Mod6\_EmergencyManagement;
- EOSO-PR-3970\_Environmental Incident Management Procedure\_Exp20260630;
- 2554\_39. AmendApp\_STO\_Liquid flare for alcohols\_Ref 14.25(EV).6(W)\_20210630;
- 2728\_37. AmendApp\_STO\_Liquid flare for alcohols\_Ref 14.25(EV).6(W)\_20220718;
- 2728\_MDARDLEA\_1.3.1.16.4 G-141\_STO STO\_Liquid flare for alcohols\_Ref 14.25(EV).6(W)\_20220822;
- Environmental incident register FY20;
- Incident register\_FY21;
- Incident register\_FY22;
- Incident register\_FY23;
- Incident register\_FY24; and
- Onsite checks.

### 3.4 AUDIT COMPLIANCE ASSESSMENT

WSP utilised a pre-prepared audit checklist to assist with the audit execution (**Table 4-1**). The checklist included the conditions and associated requirements as specified in the Exemption.

Each condition was verified, either by reviewing documentation, interviewing employees and/or visually inspecting the facility. Each condition was rated in accordance with **Table 3-1** below, and recommendations with associated target completion dates included.

It should be noted that some of the Exemption conditions were apportioned according to the elements requiring compliance assessment therein. Although some elements of the condition may have been compliant, if one of the elements was determined to be non-compliant, the entire condition has been reported as such (and counted as such during percentage compliance calculation). This apportionment further allowed for the development of focussed recommendations and timeframes.

Refer to **Section 4** for the detailed audit findings (including evidence, recommendations and target completion dates).

**Table 3-1 - Compliance Level Definition and Target Completion Dates**

Compliance Level	Definition
Compliant (C)	Sasol could provide evidence for compliance with the commitment and condition and/or where relevant actions were implemented.
Non-compliant (NC)	Specified commitments, conditions and documents were not in place or implemented according to the requirements of the Exemption. Non-complaint conditions are given target completion dates, as follows: <ul style="list-style-type: none"><li>■ Short term: 0 – 6 months.</li></ul>



Compliance Level	Definition
	<ul style="list-style-type: none"> <li>Medium term: 6 – 12 months.</li> <li>Long term: 12 – 18 months.</li> </ul>
Not applicable (N/A)	<p>These are commitments that are either not required yet or not applicable to Sasol.</p> <p>Conditions marked as “Noted” are considered information points only.</p> <p>Where conditions are considered “not auditable” within the scope of this assessment this is stated and explained within the condition commentary.</p>

### 3.5 AUDIT TEAM

WSP auditor, Milisa Rala, was hosted by Sasol representatives, Broni van der Meer and Nomzamo Moyo, to whom we express our gratitude for their time and attention during our visit. A brief summary of the external auditors’ experience is provided below.

■ **Lead Auditor: Milisa Rala**

Milisa is an Environmental Consultant with three years of experience in the environmental consulting industry. Her skill set includes environmental management, environmental compliance, and environmental advisory. Milisa has assisted in Environmental and Social Impact Assessments (ESIA), ESIA's aligned with International Finance Corporation Performance Standards (IFC PS), Basic Assessments (BA), waste management licensing and the public participation process and or stakeholder engagement and management. Milisa also has experience in renewable energy projects, mining projects and waste management related projects. She is currently working across the mining, waste management, industry, and renewable energy sectors.

■ **Project Manager and Quality Assurance: Ashlea Strong**

Ashlea is a Principal Associate with 21 years’ experience in the environmental field. She currently provides technical and strategic expertise on a diverse range project in the environmental management field, including environmental scoping and impact assessment studies, environmental management plans, waste and water management, as well as the provision of environmental management solutions and mitigation measures. Ashlea has been involved in the management of a number of large EIAs specifically within the energy sector such as the Medupi Power Station, and Pebble-Bed Modular Reactor (PBMR) and numerous Renewable Energy Developments and Transmission Powerlines. She also has significant environmental auditing experience and expertise having undertaken over 70 compliance audits. Ashlea holds a Masters in Environmental Management; a BTech (Nature Conservation), and a National Diploma (Nature Conservation). She is also a Registered Environmental Assessment Practitioner.

■ **Project Manager and Quality Assurance: Marié Schlechter**

Marié Schlechter has worked in the mining industry and environmental consultancy for over twenty-three years, gaining experience in the implementation of environmental management systems and mitigation of environmental impacts from mining and industrial activities. Marié has experience in managing environmental impacts on mining and industrial sites as well as the implementation, maintenance and internal auditing of environmental management systems and compliance audits. Marié is a registered



Environmental Assessment Practitioner and has ICMI registration as a Lead and Mining Technical Expert Auditor as well as an Affiliate Member and Registered Environmental Auditor with the Institute of Environmental Management and Assessment (IEMA). She has conducted audits in South Africa, Mali, Guinea, Ghana, Tanzania, Mozambique, Mauritania and Finland.

### **3.6 ASSUMPTIONS AND LIMITATIONS**

This Report has been prepared by WSP on behalf and at the request of Sasol, to provide the Client an understanding of the relevant documents.

Unless otherwise agreed by us in writing, we do not accept responsibility or legal liability to any person other than the Client for the contents of, or any omissions from, this Report.

To prepare this Report, we have reviewed only the documents and information provided to us by the Client or any third parties directed to provide information and documents to us by the Client. We have not reviewed any other documents in relation to this Report and except where otherwise indicated in the Report.

The findings, recommendations and conclusions given in this report are based on the author's best scientific and professional knowledge, as well as available information. This report is based on survey and assessment techniques which are limited by time and budgetary constraints relevant to the type and level of investigation undertaken; WSP and its staff reserve the right to modify aspects of the report including the recommendations if and when new information may become available from on-going research or further work in this field, or pertaining to this investigation.

Although WSP exercises due care and diligence in rendering services and preparing documents, WSP accepts no liability, and Sasol, by receiving this document, indemnifies WSP and its directors, managers, agents and employees against all actions, claims, demands, losses, liabilities, costs, damages and expenses arising from or in connection with the services rendered, directly or indirectly by the use of the information contained in this document.

This report must not be altered or added to without the prior written consent of the author. This also refers to electronic copies of this report which are supplied for the purposes of inclusion as part of other reports. Similarly, any recommendations, statements or conclusions drawn from or based on this report must make reference to this report. If this report is used as part of a main report, the report in its entirety must be included as an appendix or separate section to the main report.

## 4 AUDIT FINDINGS

**Table 4-1 - Audit Findings - Exemption**

Ref:	Commitment	Compliance	Finding	Recommendation
<b>1. GENERAL CONDITIONS</b>				
1.01	This Exemption refers only to the project specified above and described in the Record of Decision. Separate applications must be lodged for any other development and/or activity which is covered by Section 21 & 22 of the Act and Government Notice R 1182 of 5 September 1997.	N/A	<p>The condition has been noted by Sasol.</p> <p>An application was lodged by Sasol to the Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs (MDARDLEA) on 18 July 2022 to amend conditions 3.1, 3.2, 3.4, 3.5, 4.2, 4.3, 5.1, 5.2, 5.3, 7.1, 8.1, 8.4 of the Environmental Exemption.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> <li>2728_MDARDLEA_1.3.1.16.4 G-141_STO STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	None.
1.02	Exemption is only granted in terms of Section 28A of the Environment Conservation Act, 1989 (Act 73 of 1989) and Government Notice R 29 of 7 April 1995, and does not exempt the holder from compliance with any other relevant legislation.	N/A	The condition has been noted by Sasol.	None.
1.03	This department may change and/or amend any of the conditions in this exemption if, in the opinion of the Department, it is environmentally justified.	C	An application was lodged by Sasol to the Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs (MDARDLEA) on 18 July 2022 to amend conditions	Sasol should make regular follow ups with the MDARDLEA on the progress of

Ref:	Commitment	Compliance	Finding	Recommendation
			<p>3.1, 3.2, 3.4, 3.5, 4.2, 4.3, 5.1, 5.2, 5.3, 7.1, 8.1, 8.4 of the Environmental Exemption.</p> <p>The confirmation of receipt of the amendment application, dated 22 August 2022, was received from the MDARDLEA.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> <li>2728_MDARDLEA_1.3.1.16.4 G-141_STO_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	the amendment application.
1.04	A copy of this Exemption shall be available at the plant at all times and all staff, contractors and sub-contractors shall be acquainted with the contents of the exemption.	C	<p>Every person entering the Sasol site is subject to a SHE induction process. Further to this, each Business Unit conducts further plant specific inductions to ensure that all persons are familiar with the Safety, Health &amp; Environmental aspects and requirements of that site/plant.</p> <p>SHE: Environment team continuously liaise with business to ensure details of licenses, exemption, authorisations, are shared. All documentation related to these are available on SharePoint.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>Training records are stored on IMS: <ul style="list-style-type: none"> <li>SO: <a href="http://she-ims.sasol.com:91/Home/Default.aspx">http://she-ims.sasol.com:91/Home/Default.aspx</a>.</li> <li>ROAS: <a href="https://sasol.sharepoint.com/sites/OPS-SCO-SHE/Library/Forms/AllItems.aspx?id=%2Fsites">https://sasol.sharepoint.com/sites/OPS-SCO-SHE/Library/Forms/AllItems.aspx?id=%2Fsites</a></li> </ul> </li> </ul>	None.





Ref:	Commitment	Compliance	Finding	Recommendation
			<p>%2FOPS%2DSCO%2DSHE%2FLibrary%2FROAS%20IMS&amp;p=true&amp;ga=1</p> <ul style="list-style-type: none"> <li>Relevant environmental compliance data available on SharePoint and all relevant personnel have access: <a href="https://sasol.sharepoint.com/sites/New-OPS-SSO-SHE/Stakeholder%20Risk%20%20Compliance/Forms/AllItems.aspx?id=%2Fsites%2FNew%2DOPS%2DSSO%2DSHE%2FStakeholder%20Risk%20%20Compliance%2FCompliance%2FSecondaryOps%5F2024&amp;viewid=6d2f407a%2D26ba%2D48c2%2Da004%2Df33a7fed6283">https://sasol.sharepoint.com/sites/New-OPS-SSO-SHE/Stakeholder%20Risk%20%20Compliance/Forms/AllItems.aspx?id=%2Fsites%2FNew%2DOPS%2DSSO%2DSHE%2FStakeholder%20Risk%20%20Compliance%2FCompliance%2FSecondaryOps%5F2024&amp;viewid=6d2f407a%2D26ba%2D48c2%2Da004%2Df33a7fed6283</a>.</li> <li>Copy of e-mail “Environmental compliance and risk management requirements” dated 2024-01-29 as latest communication to share compliance requirements with business.</li> <li>Copy of Exemption on SharePoint named “3.02 SEST 14.25(EV).6(W)_1999-02-09 EA”.</li> </ul>	
<b>2. ESTABLISHMENT OF THE SYSTEM</b>				
2.01	This Exemption is repealed if the project has not commenced within two (2) years from the date of the Exemption.	N/A	This condition is considered outside of the audit period. It is therefore considered not applicable.	None.
2.02	Fourteen (14) days written notice must be given to this Department before commencement with construction activities.	N/A	This condition is considered outside of the audit period. It is therefore considered not applicable.	None.
<b>3. CONSTRUCTION AND OPERATION</b>				
3.01	A liquid flaring system (for alcohols) utilising alternative 2, located in parallel to the existing	C	As per the recommendations from the 2019 Audit, an amendment application was lodged by Sasol to the	Sasol should make regular follow ups

Ref:	Commitment	Compliance	Finding	Recommendation
	pit flare (56 ME 106 - unit 51) in the existing SASOL Synthetic Fuels Complex, is to be constructed and operated. A Seadragon type burner, i.e. a three-tip burner with a big turn down rate, is to be installed.		<p>MDARDLEA on 18 July 2022 to amend conditions 3.1 (the applicable condition), 3.2, 3.4, 3.5, 4.2, 4.3, 5.1, 5.2, 5.3, 7.1, 8.1, 8.4 of the Environmental Exemption to, <i>inter alia</i>, align the conditions of the exemption to the current technology installed.</p> <p>The confirmation of receipt of the amendment application, dated 22 August 2022, was received from the MDARDLEA.</p> <p>The amendment application proposed to change condition 3.1 to read as follows, "A Non-acid Chemical (NAC) Burner was installed with NAC liquid flare system technology. Each burner has 5m<sup>3</sup>/hour capacity. There are five burners, consequently the five flares operating simultaneously will have a total nominal flare capacity of 25 m<sup>3</sup>/h."</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>0_Manual – Operation of the NAC Burners final;</li> <li>0_SOP_TW PC 005 Operation of the NAC Burners;</li> <li>2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> <li>2728_MDARDLEA_1.3.1.16.4 G-141_STO STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	with the MDARDLEA on the progress of the amendment application.
3.02	The liquid flaring system will have a flaring capacity of 40 m <sup>3</sup> /hr liquid (i.e. ethanol ±83% and propanol/butanol ±17%). Flaring will be done from tank 56 TK 3835. Facilities will also be provided to transfer alcohol from tanks 56 TK	C	An amendment application was lodged by Sasol to the MDARDLEA on 18 July 2022 to amend conditions 3.1 (the applicable condition), 3.2, 3.4, 3.5, 4.2, 4.3, 5.1, 5.2, 5.3, 7.1, 8.1, 8.4 of the Environmental Exemption.	Sasol should make regular follow ups with the MDARDLEA on the progress of the amendment application.

Ref:	Commitment	Compliance	Finding	Recommendation
	0113, 2556 TK 0160 and TK 2904 to tank 56 TK 3835.		<p>The confirmation of receipt of the amendment application, dated 22 August 2022, was received from the MDARDLEA.</p> <p>The amendment application proposed to change condition 3.1 to be as follows, "A Non-acid Chemical (NAC) Burner was installed with NAC liquid flare system technology. Each burner has 5m<sup>3</sup>/hour capacity. There are five burners, consequently the five flares operating simultaneously will have a total nominal flare capacity of 25 m<sup>3</sup>/h."</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>0_Manual – Operation of the NAC Burners final;</li> <li>0_SOP_TW PC 005 Operation of the NAC Burners;</li> <li>2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> <li>2728_MDARDLEA_1.3.1.16.4 G-141_STO STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	
3.03	If any changes need to be made to the design of alternative 2 other than indicated in the application, this Department must be informed thirty (30) days in advance, to be able to decide whether the changes need to be authorised.	C	<p>As per the recommendations from the 2019 Audit, the upgrade to the NAC technology was communicated to the MDARDLEA and the amendment application was submitted on 18 July 2022. The confirmation of receipt for the amendment application was received by Sasol from the MDARDLEA on 22 August 2022.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> </ul>	Sasol should make regular follow ups with the MDARDLEA on the progress of the amendment application.

Ref:	Commitment	Compliance	Finding	Recommendation
			<ul style="list-style-type: none"> <li>2728_MDARDLEA_1.3.1.16.4 G-141_STO STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	
3.04	Water from the pond underneath the burner will be circulated to ensure that any dropouts are burned.	N/A	<p>The condition is not applicable to the new NAC burner technology, as the technology does not require water or a pond. The ponds were infilled when the burner was upgraded to the NAC burner technology.</p> <p>Application for amendment with the recommendation by Sasol was to remove the condition completely as it is no longer applicable to the upgraded facility.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> <li>2728_MDARDLEA_1.3.1.16.4 G-141_STO STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	None.
3.05	The pond level will be automatically controlled by a pond level alarm and pump, which will top up the pond with fire water should a drop in pond level be detected.	N/A	<p>The condition is not applicable to the new NAC burner technology, as the technology does not require water or a pond. The ponds were infilled when the burner was upgraded to the NAC burner technology.</p> <p>Application for amendment with the recommendation by Sasol was to remove the condition completely as it is no longer applicable to the upgraded facility.</p> <p><u>Evidence:</u></p>	None.

Ref:	Commitment	Compliance	Finding	Recommendation
			<ul style="list-style-type: none"> <li>2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> <li>2728_MDARDLEA_1.3.1.16.4 G-141_STO STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	
3.06	An earth berm will be installed between the flare and the eastern road.	C	<p>The earth berm between the slare and the eastern road was installed and observed by the auditor at the time of the site walkover.</p> <p><u>Evidence:</u></p>  <p><b>Figure 4-1 - Earth berm between the fare and the eastern road</b></p>	None.
3.07	A concrete wall will be erected at the back (southern, eastern and western sides) of the existing flares to protect personnel and equipment from radiant heat. Redundant pre-cast concrete walls should be used for this purpose.	C	<p>It was observed during the site assessment that pre-cast concrete walls have been erected at the back of the existing flares to protect personnel and equipment from radiant heat.</p>	None.

Ref:	Commitment	Compliance	Finding	Recommendation
			<u>Evidence:</u>  <p>Figure 4-2 - Cast concrete walls</p>	
3.08	Feed lines to the unit must be evaluated to ensure that existing piping can accommodate the additional hydraulic load.	C	<p>Plant Design and Project Services (Pty) Ltd (PDPS) compiled a Basic Engineering Package (BEP) (20130904) for the project; the BEP includes detailed evaluations of the piping.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>3.08 BEP RELEASE FOR DETAIL DESIGN (20130904).</li> </ul>	None.
<b>4. AIR POLLUTION</b>				
4.01	The applicant will implement all necessary steps to ensure that smokeless burning from the flare occurs.	C	<p>According to Sasol, the new NAC burner achieves smokeless flaring with a four-bar steam injection and a built-in fan. The NAC burner no longer requires the use of compressed air.</p>	None.

Ref:	Commitment	Compliance	Finding	Recommendation
			<p>In addition, no complaints and environmental incidents regarding smoke from this flare have been logged on the complaints register for the audit period.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>3.08 BEP RELEASE FOR DETAIL DESIGN (20220829);</li> <li>Environmental incident register FY20 (FY20 – FY24);</li> <li>Incident register_FY21;</li> <li>Incident register_FY22;</li> <li>Incident register_FY23; and</li> <li>Incident register_FY24.</li> </ul>	
4.02	Once the proposed flare has been commissioned, the possibility of increased evaporation from the pit and its concomitant risks (if any) must be monitored. The results from this monitoring must be reported to the department.	N/A	<p>This condition is not applicable to the new NAC burner technology, as it does not require water or a pond or pit; the pond was infilled when the burner was upgraded to the NAC burner technology.</p> <p>An amendment application was lodged by Sasol to the MDARDLEA on 18 July 2022 to amend conditions 3.1 (the applicable condition), 3.2, 3.4, 3.5, 4.2, 4.3, 5.1, 5.2, 5.3, 7.1, 8.1, 8.4 of the Environmental Exemption.</p> <p>The confirmation of receipt of the amendment application, dated 22 August 2022, was received from the MDARDLEA.</p> <p>Application for amendment with the recommendation by Sasol was to remove the condition completely as it is no longer applicable to the upgraded facility.</p>	None.

Ref:	Commitment	Compliance	Finding	Recommendation
			<u>Evidence:</u> <ul style="list-style-type: none"> <li>3.08 BEP RELEASE FOR DETAIL DESIGN (20220829);</li> <li>2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> <li>2728_MDARDLEA_1.3.1.16.4 G-141_STO_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	
4.03	Interface documents for the 4000 Nm <sup>3</sup> /hr compressed air, which is required for operation of the proposed flare, must be obtained prior to the commissioning of the flare.	N/A	<p>This condition is not applicable to the new NAC burner technology, as it does not require compressed air; the NAC burner operates with channelled airflow.</p> <p>An amendment application was lodged by Sasol to the MDARDLEA on 18 July 2022 to amend conditions 3.1 (the applicable condition), 3.2, 3.4, 3.5, 4.2, 4.3, 5.1, 5.2, 5.3, 7.1, 8.1, 8.4 of the Environmental Exemption.</p> <p>The confirmation of receipt of the amendment application, dated 22 August 2022, was received from the MDARDLEA.</p> <p>Application for amendment with the recommendation by Sasol was to remove the condition completely as it is no longer applicable to the upgraded facility.</p> <u>Evidence:</u> <ul style="list-style-type: none"> <li>3.08 BEP RELEASE FOR DETAIL DESIGN (20220829);</li> <li>2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> </ul>	None.



Ref:	Commitment	Compliance	Finding	Recommendation
			<ul style="list-style-type: none"> <li>2728_MDARDLEA_1.3.1.16.4 G-141_STO STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	
<b>5. WATER POLLUTION</b>				
5.01	The only effluent to be generated is pit water which require discarding during shutdowns. This effluent must be disposed of in the appropriate manner.	N/A	<p>Not applicable to the new NAC burner technology, as it does not operate with water and therefore does not generate effluent.</p> <p>An amendment application was lodged by Sasol to the MDARDLEA on 18 July 2022 to amend conditions 3.1 (the applicable condition), 3.2, 3.4, 3.5, 4.2, 4.3, 5.1, 5.2, 5.3, 7.1, 8.1, 8.4 of the Environmental Exemption.</p> <p>The confirmation of receipt of the amendment application, dated 22 August 2022, was received from the MDARDLEA.</p> <p>Application for amendment with the recommendation by Sasol was to remove the condition completely as it is no longer applicable to the upgraded facility.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>3.08 BEP RELEASE FOR DETAIL DESIGN (20220829);</li> <li>2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> <li>2728_MDARDLEA_1.3.1.16.4 G-141_STO STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	None.

Ref:	Commitment	Compliance	Finding	Recommendation
5.02	Current shutdown procedures must be reviewed to ensure that future operation will not result in an environmental incident.	C	<p>An amendment to this condition was submitted by Sasol to the MDARDLEA (18 July 2022) as the current condition is not applicable to the NAC burner technology.</p> <p>Section 8 of the NAC Burner Manual details the procedure to be followed during a normal shutdown event. This procedure is deemed safest and was provided by the supplier of the NAC system.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>■ NAC Burner Manual_20109-OMM-0001_2014-06-01 (20140601);</li> <li>■ 2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> <li>■ 2728_MDARDLEA_1.3.1.16.4 G-141_STO_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	None.
5.03	Overflow of the pit must be prevented by the implementation of the two independent control systems, i.e. system one which will control the make-up water and system two which will activate an alarm in the control room.	N/A	<p>Not applicable to the new NAC burner technology, as it does not require water or a pond; the pond was infilled when the burner was upgraded to the NAC burner technology.</p> <p>An application to amend this condition has been submitted to the MDARDLEA.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>■ 3.04 SOP NAC Burners_TW SPC 001_2015-02-13;</li> <li>■ 2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> </ul>	None.

Ref:	Commitment	Compliance	Finding	Recommendation
			<ul style="list-style-type: none"> <li>2728_MDARDLEA_1.3.1.16.4 G-141_STO STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	
<b>6. RISK MANAGEMENT</b>				
6.01	All employees, contractors and sub-contractors employed by, or delivering a service to SSF, shall be acquainted with the characteristics and dangers associated with the processes used by SSF. They shall also be familiar with these processes as well as the emergency plans associated with it, and shall receive instructions and procedures necessary to prevent emergency situations.	C	<p>All visitors and contractors entering the Sasol Complex are required to undergo a SHE induction process. All training is done through the SHE regional learning and development academy, and records maintained by Sasol.</p> <p>Every person entering the Sasol site is subject to a SHE induction process. Further to this, each Business Unit conducts further plant specific induction to ensure that all persons are familiar with the Safety, Health &amp; Environmental aspects and requirements of that site/plant.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>Emergency preparedness_CGR-SHE-000002_Exp20261101</li> <li>Induction_Mod4_ProcessSafetyManagement; and</li> <li>Induction_Mod6_EmergencyManagement.</li> </ul>	None.
<b>7. MONITORING</b>				
7.01	<p>The applicant will implement appropriate actions to ensure the accurate measurement of the following:</p> <p>The volume of water consumed by the burner shall be metered and recorded on a daily basis when the flare is in operation.</p>	N/A	<p>This condition is not applicable to the new NAC burner technology, as the NAC technology does not require water to operate.</p> <p>An amendment application was submitted to MDARDLEA to remove the condition from the Environmental Exemption.</p>	None.

Ref:	Commitment	Compliance	Finding	Recommendation
	The volume of water contained in the pond which serves the flare burner as well as the volume of water added to the pond shall be metered and recorded on a daily basis when the system is operational.		<u>Evidence:</u> <ul style="list-style-type: none"> <li>NAC Burner Manual_20109-OMM-0001_2014-06-01 (20140601);</li> <li>2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> <li>2728_MDARDLEA_1.3.1.16.4 G-141_STO_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	
7.02	The information from the above mentioned monitoring shall be forwarded on a monthly basis to the Gauteng Regional Office of the Department of Water Affairs and Forestry.	N/A	<p>This condition is not applicable to the new NAC burner technology, as the NAC technology does not require water to operate.</p> <p>An amendment application was submitted to MDARDLEA to remove the condition from the Environmental Exemption.</p> <u>Evidence:</u> <ul style="list-style-type: none"> <li>NAC Burner Manual_20109-OMM-0001_2014-06-01 (20140601);</li> <li>2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> <li>2728_MDARDLEA_1.3.1.16.4 G-141_STO_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul>	None.
<b>8. REPORTING</b>				
8.01	This authority must be notified within 24 hours in the event of non-compliance with any of the conditions of the Exemptions and/or in the case of any event which results in emissions or discharges of pollutants.	C	All environmental incidents are recorded in an environmental impact register that is maintained by Sasol's Environmental Department. All incidents are investigated and reported in line with the EOSO-PR-3970_Environmental Incident Management	None.

Ref:	Commitment	Compliance	Finding	Recommendation
			<p>Procedure (Exp20260630) procedure (SGR-SHE-000023) and as per legal requirements.</p> <p>The environmental impact register was checked for the 2020 to 2024 period, and no incidents related to this specific flare were recorded for this audit period.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>■ EOSO-PR-3970_Environmental Incident Management Procedure_Exp20260630;</li> <li>■ Environmental incident register FY20 (FY20 – FY24);</li> <li>■ Incident register_FY21;</li> <li>■ Incident register_FY22;</li> <li>■ Incident register_FY23; and</li> <li>■ Incident register_FY24.</li> </ul>	
8.02	Records relating to the compliance/non-compliance with the conditions of the Exemption must be kept in good order. Such records must be made available to this Department within seven (7) workdays of the date on a written request by the Department for such records.	N/A	The previous audit period was between the years 2014 – 2019. The records relating to the compliance / non-compliance with regards to the conditions of the Exemption are available on request by the Department.	None.
8.03	Non-compliance with, or any deviation from the conditions as set out in the Exemption, is regarded as an offence and, after reasonable provision has been made for remedial action, will be dealt with in terms of Section 29, 30 and 31A of the Act.	N/A	The condition is noted by Sasol.	None.
8.04	Any complaints regarding the said development must be brought to the attention of the Department within 24 hours after receiving the	C	Environmental complaints received from interested and affected parties, both internal and external to the organisation, are recorded in a complaints register that is maintained by Sasol's Environmental	None.

Ref:	Commitment	Compliance	Finding	Recommendation
	complaint. A complaints register must be kept for inspection by members of this Department.		<p>Department. Complaints are investigated and reported in line with the Management of Environmental Incidents and Noncompliance Events procedure (EOSO-PR-3970_Environmental Incident Management Procedure(Exp20260630)) and as per legal requirements.</p> <p>The process to lodge environmental complaints, including the relevant contact details, are communicated to internal and external stakeholders.</p> <p>The complaints register for 2020 to 2024 was checked and no complaints related to this specific flare were recorded for this audit period.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>Environmental incident register FY20 (FY20 – FY24);</li> </ul>	

## 5 SUMMARY OF THE AUDIT FINDINGS

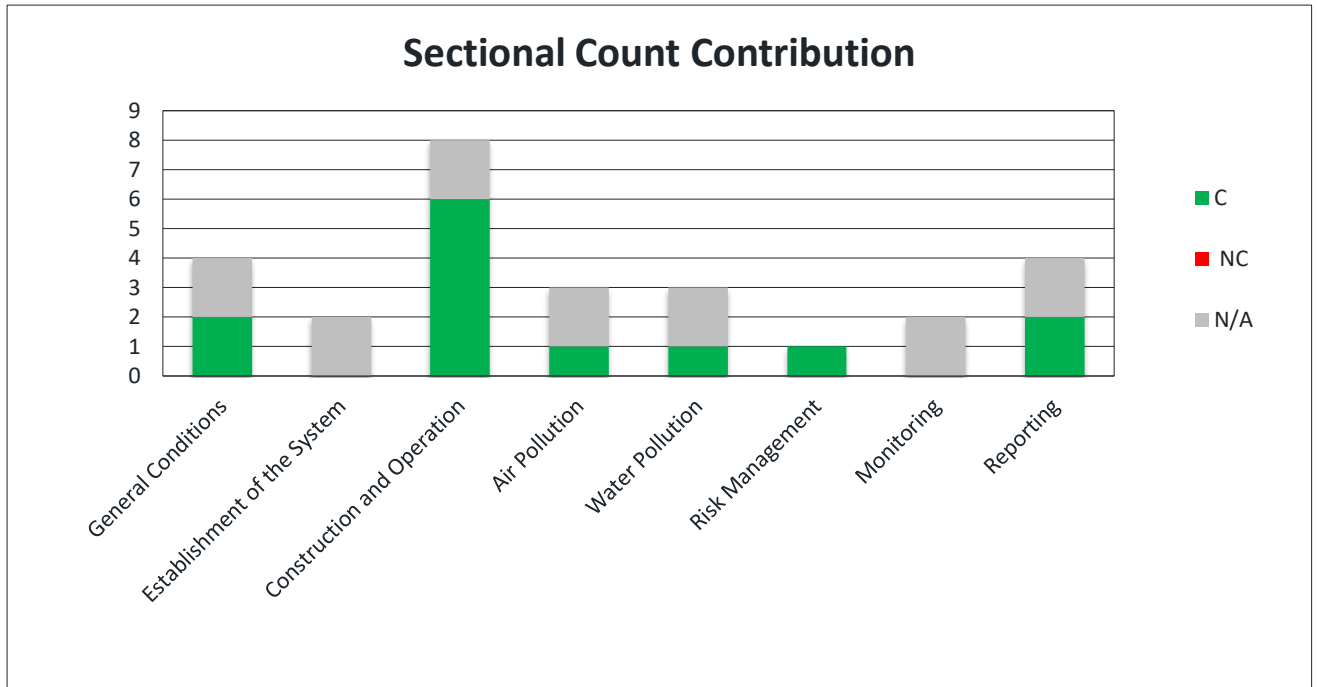
### 5.1 ENVIRONMENTAL EXEMPTION AUDIT FINDINGS

The audit findings have been summarised into the following categories: compliance, non-compliance and not applicable. The overall audit findings concerning compliance to the Environmental Exemption conditions are as listed in **Table 5-1** below.

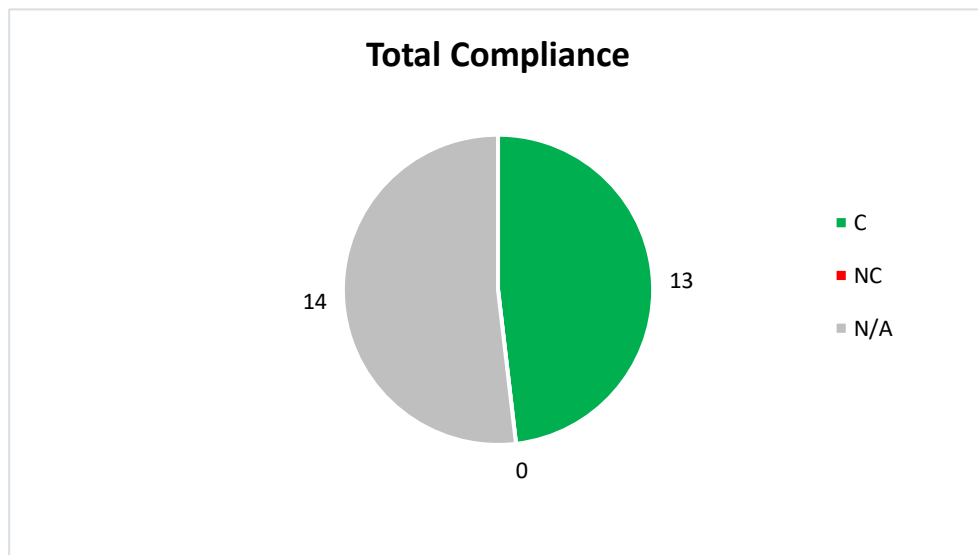
**Table 5-1 - Summary of Environmental Exemption Compliance Audit Findings**

Section of the Exemption	No. Commitments	C	NC	N/A
General Conditions	4	2	0	2
Establishment of the System	2	0	0	2
Construction and Operation	8	6	0	2
Air Pollution	3	1	0	2
Water Pollution	3	1	0	2
Risk Management	1	1	0	0
Monitoring	2	0	0	2
Reporting	4	2	0	2
Total Count	27	13	0	14
Total Percentage	-	48%	0%	52%
Percentage Compliance with Applicable Conditions	100%			

**Figure 5-1** illustrates the number/count contribution of the findings of the EA per section while **Figure 5-2** presents the total proportion of compliance for the facility.



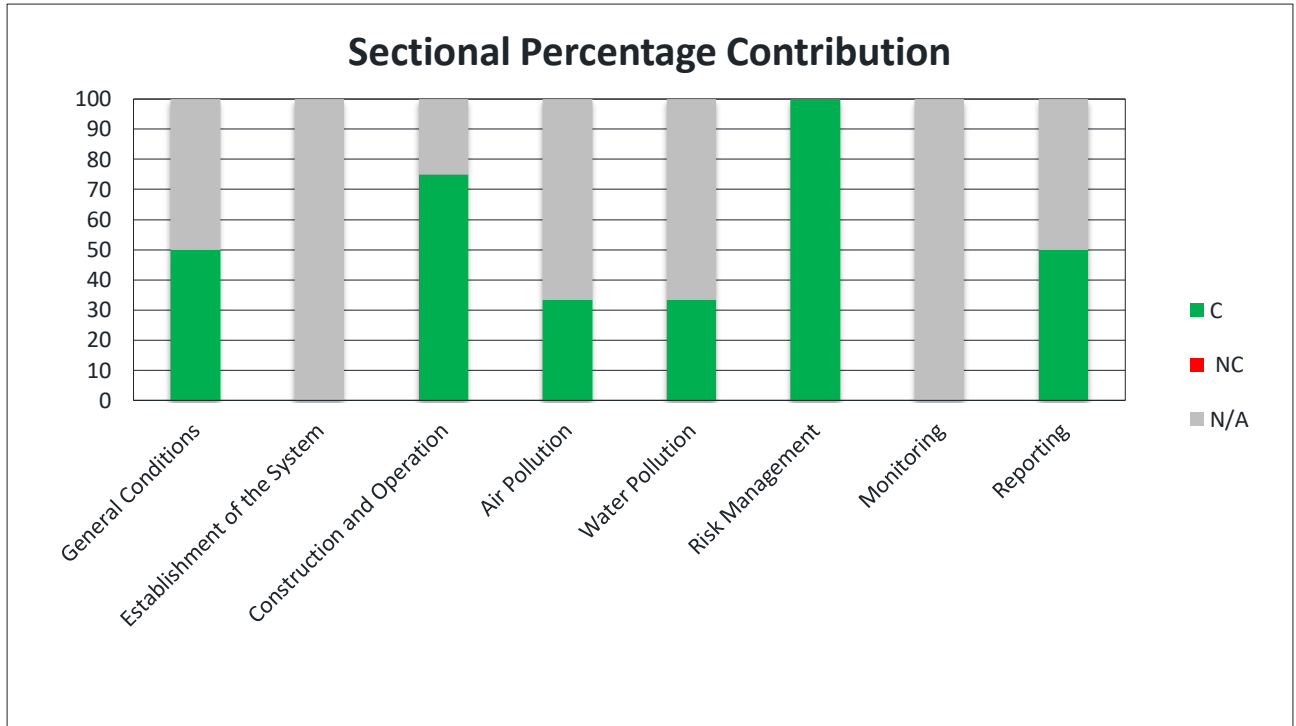
**Figure 5-1 - Number/Count contribution of findings made to the Environmental Exemption conditions per Section**



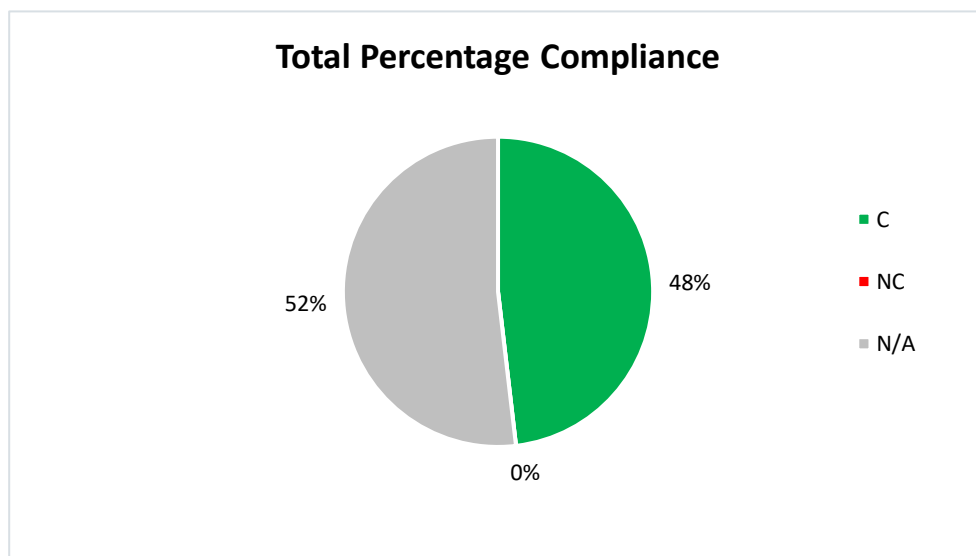
**Figure 5-2 - Overall count findings on compliance to the Environmental Exemption conditions**



**Figure 5-3** illustrates the percentage contribution of the findings of the EA conditions. **Figure 5-4** presents the total percentage compliance for the facility.



**Figure 5-3 - Overall percentage findings on compliance to the Environmental Exemption conditions**

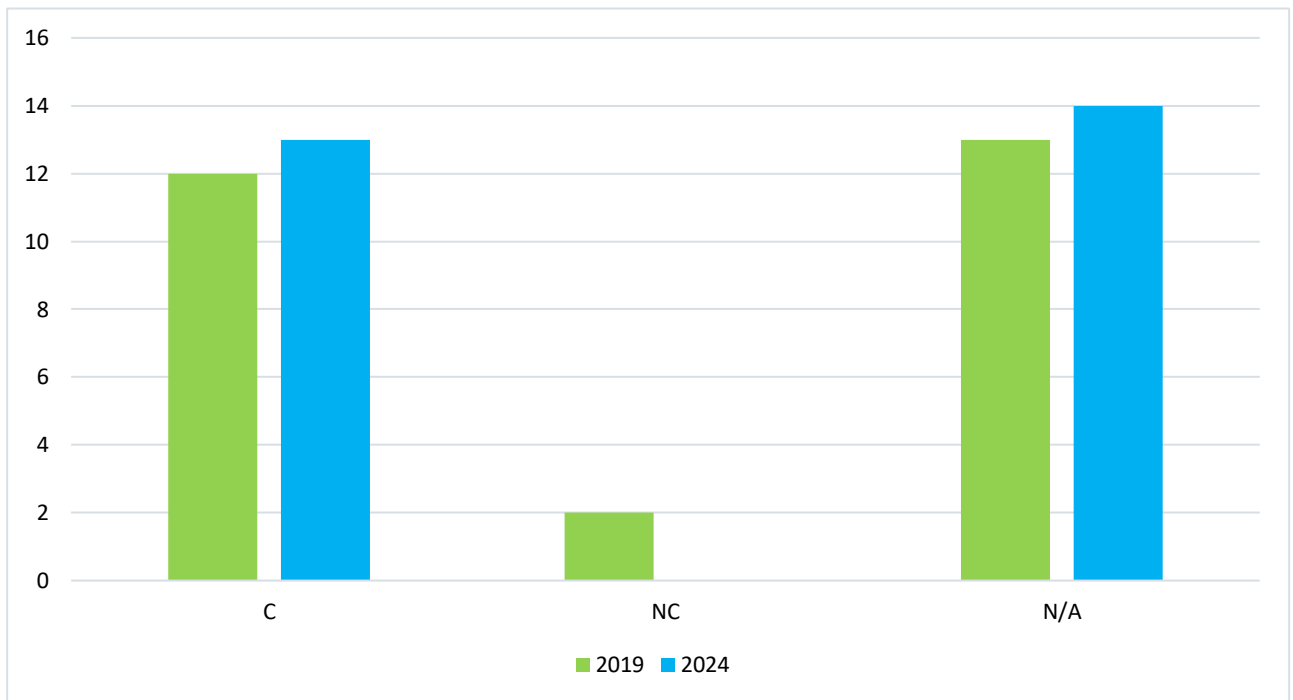


**Figure 5-4 - Percentage contribution of findings made to the Environmental Exemption conditions per Section**

## 5.2 CLOSE OUT OF PREVIOUS AUDIT FINDINGS

Conditions identified as non-compliant during the 2019 audit are included in **Table 5-2** along with the 2024 audit results. The recommendations from the 2024 audit are summarised in the relevant sections in **Table 4-1**.

Two non-compliances were identified in the 2019 audit report. Both of these conditions are recorded as compliant in the current audit report, as shown in **Table 5-2**. The compliance score comparison is illustrated in **Figure 5-5**.



**Figure 5-5 - Audit findings total count from the 2019 and 2024 audits**

**Table 5-2 – 2019/2024 Audit findings comparisons**

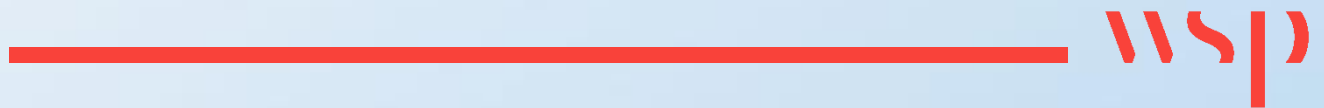
Condition		2019 Score	2019 Finding	2024 Score	2024 Finding
1.03	This department may change and/or amend any of the conditions in this exemption if, in the opinion of the Department, it is environmentally justified.	N/A	No changes or amendments have been communicated to Sasol by the Department since the issue of the exemption.	C	<p>An application was lodged by Sasol to the Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs (MDARDLEA) on 18 July 2022 to amend conditions 3.1, 3.2, 3.4, 3.5, 4.2, 4.3, 5.1, 5.2, 5.3, 7.1, 8.1, 8.4 of the Environmental Exemption.</p> <p>The confirmation of receipt of the amendment application, dated 22 August 2022, was received from the MDARDLEA.</p> <p><u>Evidence:</u></p> <ul style="list-style-type: none"> <li>2728_37. AmendApp_STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220718; and</li> <li>2728_MDARDLEA_1.3.1.16. 4 G-141_STO STO_Liquid flare for alcohols_Ref 14.25(EV).6(W)_20220822.</li> </ul> <p><u>Recommendation:</u> Sasol should make regular follow ups with the MDARDLEA</p>

Condition		2019 Score	2019 Finding	2024 Score	2024 Finding
					on the progress of the amendment application.
3.01	A liquid flaring system (for alcohols) utilising alternative 2, located in parallel to the existing pit flare (56 ME 106 - unit 51) in the existing SASOL Synthetic Fuels Complex, is to be constructed and operated. A Seadragon type burner, i.e. a three-tip burner with a big turn down rate, is to be installed.	NC	<p>The system was installed as described in 1998. It was then upgraded to an “Non-acid Chemical (NAC) Burner” when the initial system was deemed outdated.</p> <p>This upgrade was not communicated to the Department or approved by means of an amendment/exemption or similar process.</p> <p><u>Recommendation:</u></p> <p>An enquiry should be logged with the Department, to inform them of the changes made and identify the need (if any) for an amendment or renewal of the Exemption.</p> <p><u>Target Completion:</u></p> <p>Medium term</p>	C	<p>As per the recommendations from the 2019 Audit, an amendment application was lodged by Sasol to the MDARDLEA on 18 July 2022 to amend conditions 3.1 (the applicable condition), 3.2, 3.4, 3.5, 4.2, 4.3, 5.1, 5.2, 5.3, 7.1, 8.1, 8.4 of the Environmental Exemption to, <i>inter alia</i>, align the conditions of the exemption to the current technology installed.</p> <p>The confirmation of receipt of the amendment application, dated 22 August 2022, was received from the MDARDLEA.</p> <p>The amendment application proposed to change condition 3.1 to read as follows, “A <i>Non-acid Chemical (NAC) Burner</i> was installed with NAC liquid flare system technology. Each burner has 5m<sup>3</sup>/hour capacity. There are five burners, consequently the five flares operating simultaneously will have a total nominal flare capacity of 25 m<sup>3</sup>/h.”</p>

Condition		2019 Score	2019 Finding	2024 Score	2024 Finding
3.03	If any changes need to be made to the design of alternative 2 other than indicated in the application, this Department must be informed thirty (30) days in advance, to be able to decide whether the changes need to be authorised.	NC	<p>According to Sasol, no changes were required at the time of installation and the project was initially installed as authorised. However, the upgrade to the NAC technology was not communicated to the Department or approved by means of an amendment/exemption or similar process.</p> <p><u>OFI:</u></p> <p>An enquiry should be logged with the Department, to inform them of the changes made and identify the need (if any) for an amendment or renewal of the Exemption.</p> <p><i>Target Completion:</i></p> <p>Medium term</p>	C	As per the recommendations from the 2019 Audit, the upgrade to the NAC technology was communicated to the MDARDLEA and the amendment application was submitted on 18 July 2022. The confirmation of receipt for the amendment application was received by Sasol from the MDARDLEA on 22 August 2022.

# Appendix A

## **ENVIRONMENTAL EXEMPTION (14.25(EV).6(W))**



# Mpumalanga Provincial Government

Drum Rock Complex  
Nelspruit  
1200  
Republic of South Africa



Private Bag X11233  
Nelspruit 1200  
South Africa  
Tel. (013) 759-4000  
Fax (013) 759-4000

## Department of Environmental Affairs & Tourism

Tel: (013) 6566338  
Fax: (013) 6903374  
Enquiries: A. Erasmus

P.O. Box 1746  
Witbank  
1035

Ref: 14.25(EV).6(W)

SASOL Technology (Pty) Ltd  
Private Bag x1034  
Secunda  
2302

To whom it may concern

### **EXEMPTION IN TERMS OF SECTION 28A OF THE ENVIRONMENT CONSERVATION ACT, NO. 73 OF 1989 FROM THE STIPULATIONS OF SECTIONS 21 AND 22 OF THE ACT AND REGULATION 1182 OF 5 SEPTEMBER 1997**

After due consideration of the facts presented to the administrators of the Department of Environmental Affairs and Tourism in Mpumalanga, I the undersigned, through the powers vested to me in terms of Section 28A of the Environment Conservation Act, No. 73 of 1989, (hereafter referred to as the Act) and Government Notice R29 of 7 April 1995, hereby grant exemption for the **Construction and operation of a liquid flaring system for alcohol's (utilising alternative 2) which is to be located in parallel to the existing pit flare (56 ME 106 - unit 51) in the existing SASOL Synthetic Fuels Complex** from the stipulations of Section 21 and 22 of the Act and Government Notice R1183 of 5 September 1997, with conditions as set out in the attached Record of Decision.

The MEC: Environmental Affairs and Tourism reserves the right to recall this exemption at any time as he/she may deem fit, and afterwards require that the relevant sections of the Act be adhered to for any further development on the affected area.

The Record of Decision and Conditions to be complied with are attached.





Any appeal regarding the said development can be directed to the  
MEC: Environmental Affairs and Tourism, Private Bag x11233, Nelspruit,  
1200 within 30 days of the date of the exemption.

.....

**N. L. MATHEBULA**

**MEC: ENVIRONMENTAL AFFAIRS AND TOURISM**

**DATE OF EXEMPTION:** .....09. 02. 99.....



# Mpumalanga Provincial Government

Drum Rock Complex  
Nelspruit  
1200  
Republic of South Africa



Private Bag X11233  
Nelspruit 1200  
South Africa  
Tel. (013) 759-4000  
Fax (013) 759-4000

## Department of Environmental Affairs & Tourism

Tel: (013) 6566338  
Fax: (013) 6903374  
Enquiries: A. Erasmus

P.O. Box 1746  
Witbank  
1035

Ref: 14.25(EV).6(W)

### RECORD OF DECISION

#### Brief description of Activity:

The activity entails the construction and operation of a liquid flaring system (for alcohol's) utilising alternative 2 which is to be located in parallel to the existing pit flare (56 ME 106 - unit 51) in the existing SASOL Synthetic Fuels Complex. A Seadragon type burner, i.e. a three-tip burner with a big turn down rate, is to be installed. The liquid flaring system will have a flaring capacity of 40m<sup>3</sup>/hr liquid (i.e. ethanol  $\pm$  83% and propanol/butanol  $\pm$  17%). Flaring will be done from tank 56 TK 3835. Facilities will also be provided to transfer alcohol from tanks 56 TK 0113, 256 TK 0160 and TK 2904 to tank 56 TK 3835.

#### Location:

Unit 51, SASOL Synthetic Fuels Complex, Secunda

#### Applicant:

SASOL Technology (Pty) Ltd  
Private Bag x1034  
Secunda  
2302  
Tel: (017) 619-2852  
Fax: (017) 619-2553

#### Consultant:

Poltech (Pty) Ltd  
P.O. Box 7211  
Centurion  
0046



Tel: (012) 663-7007  
Fax: (012) 663-1783

**Meetings:**

Ms. A. Erasmus of the Department of Environmental Affairs and Tourism attended a meeting regarding this application on 11 December 1998. This meeting was also attended by Ms. K. Pema of the Department of Water Affairs and Forestry.

**DECISION:**

After an application for Exemption had been received from the consultants, Poltech (Pty) Ltd., for the said activity, and after due consideration of the facts presented to the Department of Environmental Affairs and Tourism (hereafter referred to as the or this Department), Exemption is granted in terms of Section 28A of the Environment Conservation Act, 1989 (Act 73 of 1989) (hereafter referred to as the Act) and Government Notice R29 of 7 April 1995.

**Conditions**

Refer to Annexure A to this Record of Decision.

**Key factors for the decision**

1. An internal scoping exercise was conducted by Sasol Technology (Pty) Ltd, SASOL Synthetic Fuels (Pty) Ltd and Poltech (Pty) Ltd in accordance with SASOL Quality Management Standard (QMS 918) in order to identify the environmental issues associated with the five alternative flaring technologies proposed. The environmental issues identified were listed as issues identified by the applicant in the Application for Authorisation Form. This information was presented to the Department as part of the exemption application.
2. The installation of alternative 2, which entails the installation of a burner in parallel to an existing burner, was selected. This was based on technical considerations such as availability of infrastructure, SASOL's experience with pit flares, availability of the burner on short notice, flexibility, economic feasibility and safety and environmental feasibility.
3. The proposed flare is to be located in parallel to the existing pit flare (56 ME 106 - unit 51) in the existing SASOL Synthetic Fuels Complex. The status of the receiving environment is therefore considered identical to that of the current pit flare at unit 51.
4. The specific type of pit flare has been proven within SASOL Synthetic Fuels for a similar application.
5. The proposed flare to be installed is of the smokeless type. Air and water are injected into the flame to ensure smokeless burning.
6. Emissions from the flare will be limited to CO<sub>2</sub> and H<sub>2</sub>O due to complete combustion.



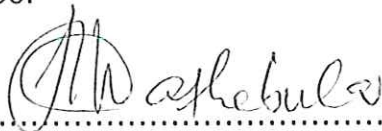
7. Using a pit flare, fluid can be recovered from the pit during a malfunction. In case of malfunction using a stack flare, fluid would be sprayed over the immediate surroundings.
8. The only effluent to be generated will be the pit water during shutdowns.
9. The Department of Water Affairs and Forestry and the Chief Air Pollution Control Officer (Mpumalanga) of the Department of Environmental Affairs and Tourism have no objections to this project.

**Duration and expiry date**

This exemption is valid for a period of five (5) years from the date of issue and must be renewed six (6) months in advance of the expiry date. The MEC for Environmental Affairs and Tourism however reserves the right to recall this exemption at any time as he/she may deem fit, after furnishing good reasons for the decision.

**Appeal**

Any appeal regarding the said development can be directed to the MEC: Environmental Affairs and Tourism, Private Bag x 11233, Nelspruit, 1200.



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**N. L. MATHEBULA**

**MEC: ENVIRONMENTAL AFFAIRS AND TOURISM**

Date: 09. 02. 99 .....

**ANNEXURE A TO THE RECORD OF DECISION  
FOR A LIQUID FLARING SYSTEM (FOR ALCOHOL'S),  
SASOL SYNTHETIC FUELS COMPLEX**

**CONDITIONS**

**1. General Conditions**

- 1.1 This Exemption refers only to the project specified above and described in the Record of Decision. Separate applications must be lodged for any other development and/or activity which is covered by Sections 21 & 22 of the Act and Government Notice R 1182 of 5 September 1997.
- 1.2 Exemption is only granted in terms of Section 28A of the Environment Conservation Act, 1989 (Act 73 of 1989) and Government Notice R 29 of 7 April 1995, and does not exempt the holder from compliance with any other relevant legislation.
- 1.3 This Department may change and/or amend any of the conditions in this exemption if, in the opinion of the Department, it is environmentally justified.
- 1.4 A copy of this Exemption shall be available at the plant at all times and all staff, contractors and sub-contractors shall be acquainted with the contents of the Exemption.

**2. Establishment of the System**

- 2.1 This Exemption is repealed if the project has not commenced within two (2) years from the date of the Exemption.
- 2.2 Fourteen (14) days written notice must be given to this Department before commencement with construction activities.

**3. Construction and Operation**

- 3.1 A liquid flaring system (for alcohol's) utilising alternative 2, located in parallel to the existing pit flare (56 ME 106 - unit 51) in the existing SASOL Synthetic Fuels Complex, is to be constructed and operated. A Seadragon type burner, i.e. a three-tip burner with a big turn down rate, is to be installed.
- 3.2 The liquid flaring system will have a flaring capacity of 40m<sup>3</sup>/hr liquid (i.e. ethanol  $\pm 83\%$  and propanol/butanol  $\pm 17\%$ ). Flaring will be done from tank 56 TK 3835. Facilities will also be provided to transfer alcohol from tanks 56 TK 0113, 256 TK 0160 and TK 2904 to tank 56 TK 3835.
- 3.3 If any changes need to be made to the design of alternative 2 other than that indicated in the application, this Department must be informed thirty (30) days in advance, to be able to decide whether the changes need to be authorised.
- 3.4 Water from the pond underneath the burner will be circulated to ensure that any dropouts are burned.



- 3.5 The pond level will be automatically controlled by a pond level alarm and pump, which will top up the pond with fire water should a drop in pond level be detected.
- 3.6 An earth berm will be installed between the flare and the eastern road.
- 3.7 A concrete wall will be erected at the back (southern, eastern and western sides) of the existing flares to protect personnel and equipment from radiant heat. Redundant pre-cast concrete walls should be used for this purpose.
- 3.8 Feed lines to the unit must be evaluated to ensure that existing piping can accommodate the additional hydraulic load

#### **4. Air Pollution**

- 4.1 The applicant will implement all necessary steps to ensure that smokeless burning from the flare occurs.
- 4.2 Once the proposed flare has been commissioned, the possibility of increased evaporation from the pit and its concomitant risks (if any) must be monitored. The results from this monitoring must be reported to the Department.
- 4.3 Interface documents for the 4 000 Nm<sup>3</sup>/hr compressed air, which is required for operation of the proposed flare, must be obtained prior to the commissioning of the flare.

#### **5. Water Pollution**

- 5.1 The only effluent to be generated is pit water which require discarding during shutdowns. This effluent must be disposed of in the appropriate manner.
- 5.2 Current shutdown procedures must be reviewed to ensure that future operation will not result in an environmental incident.
- 5.3 Overflow of the pit must be prevented by the implementation of the two independent control systems, i.e. system one which will control the make-up water and system two which will activate an alarm in the control room.

#### **6. Risk Management**

All employees, contractors and sub-contractors employed by, or delivering a service to SSF, shall be acquainted with the characteristics and dangers associated with the processes used by SSF. They shall also be familiar with these processes as well as the emergency plans associated with it, and shall receive instructions and procedures necessary to prevent emergency situations.

#### **7. Monitoring**

- 7.1 The applicant will implement appropriate actions to ensure the accurate measurement of the following:

- The volume of water consumed by the burner shall be metered and recorded on a daily basis when the flare is in operation.
  - The volume of water contained in the pond which serves the flare burner as well as the volume of water added to the pond shall be metered and recorded on a daily basis when the system is operational.
- 7.2 The information from the above mentioned monitoring shall be forwarded on a monthly basis to the Gauteng Regional Office of the Department of Water Affairs and Forestry.

## 8. Reporting:

- 8.1 This authority must be notified within 24 hours in the event of non-compliance with any of the conditions of the Exemption and/or in the case of any event which results in emissions or discharges of pollutants.
- 8.2 Records relating to the compliance/non-compliance with the conditions of the Exemption must be kept in good order. Such records must be made available to this Department within seven (7) workdays of the date on a written request by the Department for such records.
- 8.3 Non-compliance with, or any deviation from the conditions as set out in the Exemption is regarded as an offence and, after reasonable provision has been made for remedial action, will be dealt with in terms of Section 29, 30 and 31A of the Act.
- 8.4 Any complaints regarding the said development must be brought to the attention of the Department within 24 hours after receiving the complaint. A complaints register must be kept for inspection by members of this Department.



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**N. L. MATHEBULA**

**MEC: ENVIRONMENTAL AFFAIRS AND TOURISM**

Date: .....09.....02.....1999.....



Building 1, Maxwell Office Park  
Magwa Crescent West, Waterfall City  
Midrand, 1685  
South Africa

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